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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KO, DANIEL BOKMIN	

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/774,202	SAHA, NAKSHATRA	
	Examiner	Art Unit	
	Daniel B. Ko	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *33-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *33-35* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the application filed on 2/6/2004. Claims 1-35 have been submitted for examination.

Election/Restrictions

During a telephone conversation with Ron Neerings on 2/17/2006 a provisional election was made without traverse to prosecute the invention of a flash memory data structure, claims 1-32. Affirmation of this election must be made by applicant in replying to this Office action. Claims 33-35 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "said fixed length is determined based on optimizing storage space" of claim 4 is indefinite for failing to particularly point out and distinctly claim the subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6, 9, 11-15, 17-22, 24-26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by See et al. (US Patent 6,839,823 B1), hereinafter simply See.

Regarding claims 1, 12, and 19, See teaches a flash memory data structure, comprising:

fixed length cells, each having:

a control and identifier section for containing a unique identifier (Fig. 3, Identifier 302; column 4, lines 8-13) and a cell count for logically associating multiple of said fixed length cells (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46), and

a data section for containing only a configuration value pertaining to said unique identifier (Fig. 1, Data 114; column 3, lines 11-60) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

Regarding claims 2, 13, and 20, See teaches a data structure wherein said unique identifier is one byte long (column 8, lines 35-36) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

Regarding claims 3, 14, and 21, See teaches a data structure wherein one of said fixed length cells equals a minimum storage space for said configuration value (column 3, lines 38-46; column 15, lines 44-46) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

Regarding claims 4, 15, and 22, See teaches a data structure wherein said fixed length is determined based on optimizing storage space of said data structure (column 4, lines 20-49) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

Regarding claims 6, 17, and 24, See teaches a data structure wherein said data section is located at an end of said fixed length cells (Fig. 2, column 3, lines 36-54).

Regarding claim 9, See teaches a data structure wherein said unique identifier corresponds to a configuration parameter in a lookup table (column 3, lines 8-19).

Regarding claims 11, 18 and 25 See teaches a data structure wherein said control and identifier section is configurable such that said unique identifier and said cell count are located in subsequent bytes at the beginning of said control and identifier section (Fig. 2, column 3, lines 36-54; column 5, lines 44-67) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

Regarding claim 26, See teaches a method of writing to flash memory with fixed length cells, comprising:

locating a first of said fixed length cells that is free (Fig. 10, Step 1020; column 10, lines 2-4);

writing a unique identifier in a control and identifier section of said first free fixed length cell (Fig. 3, Identifier 302; column 4, lines 8-13);

writing a configuration value pertaining to said unique identifier in a data section of said first free fixed length cell (Fig. 1, Data 114; column 3, lines 11-60); and

updating a cell count in said control and identifier section to represent a number of said fixed length cells logically associated (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46).

Regarding claim 28, See teaches a method including searching said flash memory for a pre-existing configuration value having said unique identifier and marking said pre-existing configuration value as deleted (column 15, lines 14-18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 5, 7-8, 10, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over See et al. (US Patent 6,839,823 B1) in view of Cho et al. (US Patent 5,835,950), hereinafter simply Cho.

Regarding claims 5, 16 and 23, See teaches a flash memory data structure, comprising:

fixed length cells, each having:

a control and identifier section for containing a unique identifier (Fig. 3, Identifier 302; column 4, lines 8-13) and a cell count for logically associating multiple of said fixed length cells (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46), and

a data section for containing only a configuration value pertaining to said unique identifier (Fig. 1, Data 114; column 3, lines 11-60) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

See fails to teach the fixed length cells are 32 bytes long. Cho teaches a block size of 32 bytes (column 6, lines 53-55, column 8, lines 29-30).

At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the See with Cho. The motivation for doing so would be to support the 32 bytes length cell that is commonly used to the See's invention (column 6, lines 53-55, column 8, lines 29-30).

Regarding claims 7 and 8, See teaches a flash memory data structure, comprising:

fixed length cells, each having:

a control and identifier section for containing a unique identifier (Fig. 3, Identifier 302; column 4, lines 8-13) and a cell count for logically associating multiple of said fixed length cells (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46), and

a data section for containing only a configuration value pertaining to said unique identifier (Fig. 1, Data 114; column 3, lines 11-60) for a flash memory controller (Fig. 21, Micro-controller 2102; column 15, lines 25-50) and flash memory (Fig. 21, Flash Memory 2104; column 15, lines 25-50).

See fails to teach using programming macro when configure a size of the data structure. Cho teaches macro program to do the functions (column 7, lines 47-49).

At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the See with Cho. The motivation for doing so would have been an automation of configuring a length of the fixed cells by using Cho's macro program.

Regarding claim 10, it is clear that multiples of the identifier correspond to many configuration parameters such as 254 or any number.

4. Claims 27 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over See et al. (US Patent 6,839,823 B1) in view of Lee et al. (US Patent 5,870,520), hereinafter simply Lee.

Regarding claims 27, See teaches a method of writing to flash memory with fixed length cells, comprising:

locating a first of said fixed length cells that is free (Fig. 10, Step 1020; column 10, lines 2-4);

writing a unique identifier in a control and identifier section of said first free fixed length cell (Fig. 3, Identifier 302; column 4, lines 8-13);

writing a configuration value pertaining to said unique identifier in a data section of said first free fixed length cell (Fig. 1, Data 114; column 3, lines 11-60); and

updating a cell count in said control and identifier section to represent a number of said fixed length cells logically associated (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46).

See fails to teach updating a checksum of the configuration value. Lee teaches a checksum to determine validity (column 3, lines 32-39; column 5, lines 3-16).

At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the See with Lee. The motivation for doing so would have been an error checking of configuration value by utilizing Lee's checksum method. It would validate the configuration value for any possible errors.

Regarding claim 29, See combined with Lee teach a method including updating a global variable during system initialization (Lee, column 6, lines 10-14) with an address of a first of said fixed length cells that is free (See, column 10, lines 2-4).

Regarding claim 30, Lee teaches a method as recited in claim 29 further including testing said configuration value to determine completeness (column 11, lines 37-40).

Regarding claim 31, See combined with Lee teach a method including

updating said cell count (See, Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46) and marking said configuration value as deleted when determining said configuration value is not complete (See, column 15, lines 14-18); and

updating said cell count (Fig. 3, Table Number 312; column 4, lines 44-48; column 5, lines 13-46) and a checksum of said configuration value when determining said configuration value is complete (Lee, column 3, lines 32-39; column 5, lines 3-16).

Regarding claim 32, Lee teaches a method including validating checksums of each of said fixed length cells (column 3, lines 32-39; column 5, lines 3-16).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel B. Ko whose telephone number is 571-272-8194.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manorama Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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